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* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * * * *
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chain nodes :
11 12 13 14 16 17 24 25 26 27 34
ring nodes :
1 2 3 4 5 6 7 8 9 10 18 19 20 21 22 23 28 29 30 31 32 33
chain bonds :
1-12 2-11 9-17 11-13 12-14 16-17 17-19 23-24 24-25 25-26 26-29 26-27
32 - 34
ring bonds :
1-2 1-6 2-3 3-4 4-5 4-7 5-6 5-10 7-8 8-9 9-10 18-19 18-23 19-20 20-21
21-22 22-23 28-29 28-33 29-30 30-31 31-32 32-33
exact/norm bonds :
1-12 2-11 4-7 5-10 7-8 8-9 9-10 9-17 16-17 18-19 18-23 19-20 20-21 21-
22 22-23 23-24 24-25 25-26 26-27
exact bonds :
11-13 12-14 17-19 26-29 32-34
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 28-29 28-33 29-30 30-31 31-32 32-33
isolated ring systems :
containing 1 : 18 :
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:CLASS 12:CLASS 13:CLASS 14:CLASS 16:CLASS 17:CLASS 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:Atom
29:Atom 30:Atom 31:Atom 32:Atom 33:Atom 34:CLASS
=> s 11 sam
L2
            0 SEA SSS SAM L1
=> s l1 full
L3
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=> file caplus
=> s 13
L4
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=> s 14 and pd< april 2003
     23709234 PD< APRIL 2003
              (PD<20030400)
1.5
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=> dis 15 fbib abs hitstr
    ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
    2000:881143 CAPLUS Full-text
AN
DM
   134:42075
```

10/552,019

- TI Preparation of novel isoquinoline derivatives as If current inhibitors
- IN Watanabe, Toshihiro; Kakefuda, Akio; Okazaki, Toshio; Masuda, Noriyuki; Wada, Koichi
- PA Yamanouchi Pharmaceutical Co., Ltd., Japan

SO PCT Int. Appl., 42 pp. CODEN: PIXXD2

DT Patent

LA Japanese

| FAN. | | 1 | | | | KIND DATE | | | | | | | | | | | | | |
|------|-----|------|------|-----|-----|-----------|-----|------|----------------|-----|------|----------------|------|-----|-----|-------|----------------|-----|---|
| | PA' | TENT | NO. | | | KIN | D | DATE | | | APPI | LICAT | ION | NO. | | 1 | DATE | | |
| PI | | 2000 | | | | | | | | | | | | | | | 20000 | 601 | < |
| | | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB, | BG, | BR, | BY, | CA, | CH | CN, | CR, | |
| | | | CU, | CZ, | DE, | DK, | DM, | DZ, | EE, | ES, | FI, | GB, | GD, | GE, | GH, | GM | HR, | HU, | |
| | | | ID, | IL, | IN, | IS, | JP, | KE, | KG, | KP, | KR, | KZ, | LC, | LK, | LR, | LS | LT, | LU, | |
| | | | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NO, | NZ, | PL, | PT, | RO | , RU, | SD, | |
| | | | SE, | SG, | SI, | SK, | SL, | TJ, | TM, | TR, | TT, | TZ, | UA, | UG, | US, | UZ | VN, | YU, | |
| | | | ZA, | ZW | | | | | | | | | | | | | | | |
| | | RW: | GH, | GM, | KE, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZW, | AT, | BE | CH, | CY, | |
| | | | | | | | | | | | | LU, | | | | SE | BF, | ВJ, | |
| | | | CF, | CG, | CI, | CM, | GΑ, | GN, | GW, | | | NE, | | | | | | | |
| | | | | | | | | | | | | 1999- | | | | | | | |
| | CA | 2373 | 880 | | | A1 | | 2000 | 1214 | | | | | | | | | | < |
| | | | | | | | | | | | | 1999- | | | | | | | |
| | | | | | | | | | | | WO 2 | 2000- | JP35 | 64 | | W : | 20000 | 601 | |
| | | 1186 | | | | A1 | | 2002 | 0313 | | EP 2 | 2000- 2000- | 9316 | 52 | | | 20000 | 601 | < |
| | EP | 1186 | | | | | | | | | | | | | | | | | |
| | | R: | | | | | | | FR, | GB, | GR, | IT, | LI, | LU, | NL, | SE | , MC, | PT, | |
| | | | IE, | SI, | LT, | LV, | FI, | RO | | | | | | | | | | | |
| | | | | | | | | | | | | 1999- | | | | | 19990 | | |
| | 011 | 1136 | 010 | | | В | | 2004 | 0100 | | | 2000- 2000- | | | | | 20000 20000 | | |
| | CIN | 1136 | 213 | | | В | | 2004 | 0128 | | | 2000- 1999- | | | | | 20000 19990 | | |
| | aт | 2625 | 10 | | | т | | 2004 | 0.415 | | | 2000- | | | | | 20000 | | |
| | n.ı | 2023 | 10 | | | 1 | | 2004 | 0413 | | | 1999- | | | | | 19990 | | |
| | | | | | | | | | | | | 2000- | | | | | 20000 | | |
| | PT | 1186 | 601 | | | T | | 2004 | กรรก | | | 2000- | | | | | 20000 | | |
| | | 1100 | 001 | | | | | 2001 | 0000 | | | 1999- | | | | | 19990 | | |
| | ES | 2214 | 276 | | | Т3 | | 2004 | 0916 | | | 2000- | | | | | 20000 | | |
| | | | | | | | | | | | | 1999- | | | | | 19990 | | |
| | JP | 3741 | 042 | | | B2 | | 2006 | 0201 | | | 2001- | | | | | 20000 | | |
| | | | | | | | | | | | JP 1 | 1999- | 1562 | 17 | | Α : | 19990 | 603 | |
| | | | | | | | | | | | WO 2 | 2000- | JP35 | 64 | | W : | 20000 | 601 | |
| | MX | 2001 | PA12 | 392 | | A | | 2002 | 0730 | | MX 2 | 2001- | PA12 | 392 | | | 20011 | 130 | < |
| | | | | | | | | | | | JP 1 | 1999- | 1562 | 17 | | Α : | 19990 | 603 | |
| | | | | | | | | | | | WO 2 | 2000- 2001- | JP35 | 64 | | W : | 20000 | 601 | |
| | US | 6573 | 279 | | | B1 | | 2003 | 0603 | | | | | | | | | | |
| | | | | | | | | | JP 1999-156217 | | | | | | Α : | 19990 | 603 | | |
| | | | | | | | | | | | WO 2 | 2000- | JP35 | 64 | | W : | 20000 | 601 | |
| | | | | | | | | | | | | | | | | | | | |

OS MARPAT 134:42075

GI

$$\begin{array}{c} R^1 \\ R^2 \\ R^2 \\ \end{array} \begin{array}{c} R \\ C(CH_2) \\ R \\ COAQXB \\ \end{array} \begin{array}{c} I \\ COAQXB \\ \end{array} \begin{array}{c}$$

AΒ Title compds. [I; R = H, CH3; R1 = H, OCH3; R2 = H, OCH3; n = 1, 2; Q = CH2, CH2CH2, CH2CH2CH2; X = CONH, NHCO; A = pyrrolyl, pyrrolidinyl, piperidinyl; B = benzene, indenyl, pyridinyl, benzofuryl, etc.], stereoisomers, and salts having If current inhibitory effect without serious side effects such as convulsion are prepared and drugs, particularly cardiac rate lowering agents containing title compds. as active ingredient are discussed. Title compds. are useful in preventing ischemic heart diseases such as precordial anxiety (thoracic precordial anxiety) and myocardial infarct, and circulatory diseases such as congestive heart failure and arrhythmia (supraventricular arrhythmia, etc.). Thus, the title compound II was prepared

312752-77-5P 312752-79-7P 312752-81-1P RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of isoquinoline derivs. as If current inhibitors)

312752-77-5 CAPLUS RN CN

Benzamide, N-[2-[3-[(3,4-dihydro-6,7-dimethoxy-2(1H)isoquinolinvl)carbonvl]-1-piperidinvl]ethvl]-2,4-difluoro-, ethanedioate (1:1) (CA INDEX NAME)

CM 1

CRN 312752-76-4

CMF C26 H31 F2 N3 O4

CM 2

CRN 144-62-7 CMF C2 H2 O4

HO_Ü_Ü_OH

10/552,019

RN 312752-79-7 CAPLUS CN Benzamide, N-[2-[3-[(3,4-dihydro-6,7-dimethoxy-2(1H) $isoquinoliny 1) \\ carbony \\ 1] \\ -1 \\ -piperidiny \\ 1] \\ ethy \\ 1] \\ -4 \\ -fluoro \\ -3 \\ -(trifluoromethy \\ 1) \\ -1 \\ -(trifluoromethy \\ 1) \\ -1 \\ -(trifluoromethy \\ 1) \\ -$, phosphate (1:1) (CA INDEX NAME) CM CRN 312752-78-6 CMF C27 H31 F4 N3 O4 CM CRN 7664-38-2 CMF H3 O4 P RN 312752-81-1 CAPLUS CN Benzamide, 3-chloro-N-[2-[3-[(3,4-dihydro-6,7-dimethoxy-2(1H)isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro-, ethanedioate (1:1) (CA INDEX NAME) CM 1 CRN 312752-80-0

CM 2

CRN 144-62-7 CMF C2 H2 O4

CMF C26 H31 C1 F N3 O4

IT 312752-51-5P 312752-71-9P 312752-86-6P 312752-88-3P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of isoquinoline derivs. as If current inhibitors)

RN 312752-51-5 CAPLUS

CN Benzamide, N-[2-[3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-

isoquinoliny1)carbony1]-1-piperidiny1]ethy1]-3,4-difluoro-, ethanedioate
(1:1) (CA INDEX NAME)

CM

CRN 312752-50-4

CMF C26 H31 F2 N3 O4

CM

CRN 144-62-7 CMF C2 H2 O4

RN 312752-71-9 CAPLUS

CN Benzamide, N-[2-[3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro-, ethanedioate (1:1) (CA INDEX NAME)

CM 1

CRN 312752-70-8

CMF C26 H32 F N3 O4

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CM 2
    CRN 144-62-7
    CMF C2 H2 O4
но_Й_Й_он
    312752-86-6 CAPLUS
    Benzamide, N-[2-[(3R)-3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-
    isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro-, phosphate (1:1)
    (CA INDEX NAME)
    CM
         1
    CRN 312752-85-5
    CMF C26 H32 F N3 O4
Absolute stereochemistry. Rotation (-).
    CM
         2
    CRN 7664-38-2
    CMF H3 O4 P
    312752-88-8 CAPLUS
RN
    Benzamide, N-[2-[(3S)-3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-
    isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro-, phosphate (1:1)
    (CA INDEX NAME)
    CM
        1
    CRN 312752-87-7
    CMF C26 H32 F N3 O4
```

RN

CN

CN

Absolute stereochemistry. Rotation (+).

CM 2 CRN 7664-38-2 CMF H3 O4 P

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 14 not 15 L6 3 L4 NOT L5

=> dis 16 1-3 bib abs fhitstr

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:220250 CAPLUS Full-text

DN 146:221125

TI Therapeutic agent for atrial fibrillation

IN Wada, Koichi; Masuda, Noriyuki; Taniguchi, Keiichi

PA Astellas Pharma Inc., Japan

SO PCT Int. Appl., 21pp.

CODEN: PIXXD2

DT Patent

LA Japanese

| FAN. | CNT 1 | | | | | | | | | | | | | | | | |
|------|---------------|-----|-----|-----|------|-----|------|------|------|------|------|------|------|-----|-----|------|-----|
| | PATENT I | | KIN | D | DATE | | - 2 | APPL | ICAT | ION | NO. | | D | ATE | | | |
| | | | | | | - | | | | | | | | | - | | |
| PI | WO 2007023775 | | | | A1 | | 2007 | 0301 | 1 | WO 2 | 006- | JP31 | 6349 | | 2 | 0060 | 822 |
| | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | ΑZ, | BA, | BB, | BG, | BR, | BW, | BY, | BZ, | CA, | CH, |
| | | CN, | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FI, | GB, | GD, |
| | | GE, | GH, | GM, | HN, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KE, | KG, | KM, | KN, | KP, |
| | | KR, | ΚZ, | LA, | LC, | LK, | LR, | LS, | LT, | LU, | LV, | LY, | MA, | MD, | MG, | MK, | MN, |
| | | MW, | MX, | MY, | MZ, | NA, | NG, | NI, | NO, | NZ, | OM, | PG, | PH, | PL, | PT, | RO, | RS, |
| | | RU, | SC, | SD, | SE, | SG, | SK, | SL, | SM, | SV, | SY, | ТJ, | TM, | TN, | TR, | TT, | TZ, |
| | | UA, | UG, | US, | UZ, | VC, | VN, | ZA, | ZM, | ZW | | | | | | | |
| | RW: | AT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | ES, | FI, | FR, | GB, | GR, | HU, | IE, |
| | | IS, | IT, | LT, | LU, | LV, | MC, | NL, | PL, | PT, | RO, | SE, | SI, | SK, | TR, | BF, | BJ, |
| | | CF, | CG, | CI, | CM, | GA, | GN, | GQ, | GW, | ML, | MR, | NE, | SN, | TD, | TG, | BW, | GH, |
| | | GM, | KE, | LS, | MW, | MZ, | NA, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, | BY, |
| | | KG, | KΖ, | MD, | RU, | ТJ, | TM | | | | | | | | | | |

Page 7 of 11

| | CA | 2617 | 519 | | | A1 | | 2007 | 0301 | | CA 2 | 006- | 2617 | 519 | | 2 | 0060 | 322 |
|---|-----|---------|------|-----|-----|-----|-----|------|------|-----|------|------|------|----------|-----|-----|------|-----|
| | EP | 1917979 | | | | A1 | | 2008 | 0507 | 1 | EP 2 | 006- | | 20060822 | | | | |
| | | R: | AT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | ES, | FΙ, | FR, | GB, | GR, | HU, | IE, |
| | | | IS, | IT, | LI, | LT, | LU, | LV, | MC, | NL, | PL, | PT, | RO, | SE, | SI, | SK, | TR | |
| Т | .TP | 2005 | -241 | 403 | | A | | 2005 | 0823 | | | | | | | | | |

WO 2006-JP316349 W 20060822

ΔR Disclosed is a therapeutic agent for atrial fibrillation comprising an If current inhibitor, particularly (-)-N-[2-[(R)-3-(6,7-dimethoxy-1,2,3,4tetrahydro- isoquinoline-2-carbony1)piperidino]ethy1]-4-fluorobenzamide monophosphate, as an active ingredient. This active ingredient has more preferred properties for use as a therapeutic agent for atrial fibrillation compared to verapamil (a Ca antagonist) and atenolol (a β -blocker) which have been conventionally used as the therapeutic agents for atrial fibrillation. 312752-85-5

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(therapeutic agents for atrial fibrillation containing If current inhibitors)

RN 312752-85-5 CAPLUS

Benzamide, N-[2-[(3R)-3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-

isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 2 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN 1.6

AN 2004:872791 CAPLUS Full-text

DN 141:350046

ΤТ Preparation of novel crystal of fluorobenzamide derivative

IN Yoshida, Shinya; Watanabe, Toshihiro; Marumo, Kiyotaka; Yamaguchi, Sou

PΑ Yamanouchi Pharmaceutical Co., Ltd., Japan

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Pat.ent.

T.A Japanese

| | CNT 1 | | | | | | | | | | | | | | | | |
|----|---------------|-----|-----|-----|-----|-----|------|------|-----|------|------|-------|-----|-----|-----|------|-----|
| | PATENT | NO. | | | KIN | D | DATE | | | APPL | ICAT | ION : | NO. | | D. | ATE | |
| | | | | - | | | | | | | | | - | | | | |
| PΙ | WO 2004089933 | | | | A1 | | 2004 | 1021 | | WO 2 | 004- | JP47 | 94 | | 2 | 0040 | 401 |
| | W: | ΑE, | AG, | AL, | AM, | ΑT, | AU, | ΑZ, | BA, | BB, | BG, | BR, | BW, | BY, | BZ, | CA, | CH, |
| | | CN, | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FI, | GB, | GD, |
| | | GE, | GH, | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KE, | KG, | KΡ, | KR, | ΚZ, | LC, |
| | | LK, | LR, | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NA, | NI, |
| | | NO, | NZ, | OM, | PG, | PH, | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | SY, |
| | | ΤJ, | TM, | TN, | TR, | TT, | TZ, | UA, | UG, | US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW |
| | RW: | BW, | GH, | GM, | KE, | LS, | MW, | ΜZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, |
| | | BY, | KG, | ΚZ, | MD, | RU, | ΤJ, | TM, | ΑT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, |
| | | ES, | FI, | FR, | GB, | GR, | HU, | IE, | IT, | LU, | MC, | NL, | PL, | PT, | RO, | SE, | SI, |

| | | | SK, | TR, | BF, | ВJ, | CF, | CG, | CI, | CM, | GA, | GN, | GQ, | GW, | ML, | MR, | NE, | SN, | |
|------|-----|------|-------|------|------|-----|-----|------|------|-----|------|-------|------|------|-----|-----|------|-----|----|
| | | | TD, | TG | | | | | | | | | | | | | | | |
| | CA | 2519 | 882 | | | A1 | | 2004 | 1021 | | CA 2 | 004- | 2519 | 882 | | 2 | 0040 | 401 | |
| | EP | 1609 | 788 | | | A1 | | 2005 | 1228 | | EP 2 | 004- | 7251 | 82 | | 2 | 0040 | 401 | |
| | | R: | AT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | IT, | LI, | LU, | NL, | SE, | MC, | PT, | |
| | | | IE, | SI, | LT, | LV, | FI, | RO, | MK, | CY, | AL, | TR, | BG, | CZ, | EE, | HU, | PL, | SK, | HR |
| | CN | 1771 | 245 | | | A | | 2006 | 0510 | | CN 2 | 004- | 8000 | 9451 | | 2 | 0040 | 401 | |
| | IN | 2005 | DN04: | 378 | | A | | 2007 | 0105 | | IN 2 | 005- | DN43 | 78 | | 2 | 0050 | 927 | |
| | MΧ | 2005 | PA10 | 603 | | A | | 2006 | 0725 | | MX 2 | 005-1 | PA10 | 603 | | 2 | 0050 | 930 | |
| | US | 2007 | 0129 | 357 | | A1 | | 2007 | 0607 | | US 2 | 005- | 5520 | 19 | | 2 | 0051 | 003 | |
| PRAI | JP | 2003 | -994 | 11 | | A | | 2003 | 0402 | | | | | | | | | | |
| | WO | 2004 | -JP4 | 794 | | W | | 2004 | 0401 | | | | | | | | | | |
| os | CAS | REAC | T 14 | 1:35 | 0046 | | | | | | | | | | | | | | |

- AΒ A novel crystal of (R)-(-)-N-[2-[3-[(6,7-dimethoxy-1,2,3,4tetrahydroisoquinolin-2-yl)carbonyl]piperidino]ethyl]-4-fluorobenzamide (I) monophosphate, which is known as a preventive and/or remedy for ischemic diseases such as angina pectoris and myocardial infarction and cardiovascular diseases such as ischemic heart failure and arrhythmia, was prepared and characterized by X-ray diffraction spectra and DSC. Two crystal forms (α and β crystal forms) of compound I were prepared α Crystal form of compound I exhibited excellent moisture adsorption property and is advantageous for handling and formulation. Thus, 206.4 g(R)-1-[2-[(4fluorobenzov1)aminolethyllpiperidine-3-carboxylic acid was treated with 810 mL DMF and 120.8 g 6,7-dimethoxy-1,2,3,4- tetrahydroisoguinoline monohydrochloride, stirred, cooled, treated with 53.22 g Et3N at ≤12°, treated with 217 mL DMF and then successively with 21.32 g 1H-1,2,3-benzotriazole and 121.0 g 1-ethyl-3-(3-dimethylaminopropyl)carbodiimide hydrochloride at ≤5°, and stirred at 0-4° for 15.5 h, and treated with 340 mL H2O, 2,000 mL EtOAc, and 550 mL 8% (W/V) aqueous NaOH solution to give, after workup and concentration, crude free base I (83.9% purity). I (11.90 g) was dissolved in ethanol to a total weight of 97.8 q, treated with 5 mL ethanol, 0.47 q H2O, and 0.86 g 85% H3PO4, and then with 5 mL ethanol, stirred at 30° overnight, and filtered to give, after washing the crystals with ethanol and drying, 3.38 g I monophosphate (α crystal form).
- IIT 312752-86-6P, (R)-(-)-N-[2-[3-[(6,7-Dimethoxy-1,2,3,4tetrahydroisoquinolin-2-y1)carbonyl]piperidino]ethyl]-4-fluorobenzamide monophosphate

RL: IMF (Industrial manufacture); PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel crystal of fluorobenzamide monophosphate derivative

having

excellent moisture adsorption property)

- RN 312752-86-6 CAPLUS
- CN Benzamide, N-[2-[(3R)-3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-

10/552,019

isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro-, phosphate (1:1)
(CA INDEX NAME)

CM 1

CRN 312752-85-5 CMF C26 H32 F N3 O4

Absolute stereochemistry. Rotation (-).

CM 2

CRN 7664-38-2

CMF H3 O4 P

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:565208 CAPLUS Full-text

DN 141:106387

III Isoquinoline derivatives containing benzamide moiety and process for their preparation

IN Yoshida, Shinya; Watanabe, Toshihiro; Marumo, Kiyotaka; Kakefuda, Akio

PA Yamanouchi Pharmaceutical Co., Ltd., Japan

SO PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN CNT 1

| L Pilly . | CIVI | | | | | | | | | | | | | | | | | |
|-----------|---------------|------|-----|-----|-----|-----|------|------|-----|------|------|-------|-----|-----|---|-----|-----|--|
| | PATENT I | . 00 | | | KIN | D | DATE | | | APPL | ICAT | ION : | NO. | | DATE | | | |
| | | | - | | | | | | | | | - | | | | | | |
| PI | WO 2004058710 | | | | | | 2004 | 0715 | 1 | WO 2 | 003- | JP16 | 582 | | 20031224 , CA, CH, CN, , GB, GD, GE, , LC, LK, LR, | | | |
| | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB, | BG, | BR, | BY, | BZ, | CA, | CH, | CN, | |
| | | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FI, | GB, | GD, | GE, | |
| | | GH, | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KE, | KG, | KR, | KZ, | LC, | LK, | LR, | |
| | | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NI, | NO, | NZ, | OM, | |
| | | PG, | PH, | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | SY, | TJ, | TM, | TN, | |
| | | TR, | TT, | TZ, | UA, | UG, | US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW | | | | |
| | RW: | BW, | GH, | GM, | KE, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, | |
| | | BY, | KG, | KZ, | MD, | RU, | TJ, | TM, | AT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | |

| | | | ES, | FΙ, | FR, | GB, | GR, | HU, | IE, | IT, | LU, | MC, | NL, | PT, | RO, | SE, | SI, | SK, | |
|------|-----|-------|-------|------|-----|-----|-----|------|------|-----|------|-------|-------|------|-----|-----|------|-----|----|
| | | | TR, | BF, | ВJ, | CF, | CG, | CI, | CM, | GA, | GN, | GQ, | GW, | ML, | MR, | NE, | SN, | TD, | TG |
| | CA | 2511 | 989 | | | A1 | | 2004 | 0715 | | CA 2 | 003-2 | 2511 | 989 | | 20 | 0031 | 224 | |
| | AU | 2003 | 2927 | 57 | | A1 | | 2004 | 0722 | - 1 | AU 2 | 003-2 | 2927. | 57 | | 20 | 0031 | 224 | |
| | CN | 1753 | 870 | | | A | | 2006 | 0329 | | CN 2 | 003- | 8010 | 9919 | | 20 | 0031 | 224 | |
| | IN | 2005 | DN02 | 787 | | A | | 2007 | 0105 | | IN 2 | 005-1 | DN27 | 87 | | 20 | 0050 | 623 | |
| | US | 2006 | 0084 | 307 | | A1 | | 2006 | 0420 | 1 | US 2 | 005-5 | 5404 | 21 | | 20 | 0050 | 624 | |
| | KR | 7585 | 22 | | | B1 | | 2007 | 0914 | 1 | KR 2 | 005- | 7119 | 65 | | 20 | 0050 | 624 | |
| PRAI | JP | 2002 | -375 | 153 | | A | | 2002 | 1225 | | | | | | | | | | |
| | WO | 2003 | -JP1 | 5582 | | W | | 2003 | 1224 | | | | | | | | | | |
| 0.0 | MAG | DAT : | 1/11. | 1063 | 0.7 | | | | | | | | | | | | | | |

OS MARPAT 141:106387

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Process for the preparation of compds. I [R3 =, R4 = H, alkvl, alkoxy; Ar = AB (un) substituted aryl] and compds. II [R1 = H, alkyl, benzyl; R2 = H, protecting group of amino; Ar = (un)substituted aryl] were provided. For example, a mixture of compound (R)-II [R1 = Ethyl; R2 = H; Ar = 4fluorophenyl] (37.94 g), e.g., prepared from (R)-piperidine-3-carboxylic acid Et ester L-tartaric acid salt in 4 steps, and 1 M aqueous NaOH (177 mL) in EtOH (100 mL) stirred at room temperature for 1 h. After treating the reaction with HCl to acidic pH, the solvent was azeotropically removed by toluene. Then, to a solution of the resulting residue in DMF (250 mL) were added 6,7-dimethoxy-1,2,3,4-tetrahydroisoguinoline hydrochloride (21.66 g), HOBt (7.97 g) and WSC hydrochloride (27.14 g) at 10 °C. The reaction was stirred at room temperature for 3 h, aqueous work-up followed by treatment with 85% phosphoric acid (13.65 q) in EtOH (500 mL) afforded claimed compound III phosphoric acid salt (44.25 g). Of note, compds. I are useful for prophylaxis and/or treatment of myocardial infarction, congestive heart failure, etc. (no data). The disclosed process employs less hazardous solvent.

T 312753-85-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of isoquinoline derivs. via N-fluorobenzoylation of tetrahydroisoquinoline derivs.)

RN 312752-85-5 CAPLUS

Benzamide, N-[2-[(3R)-3-[(3,4-dihydro-6,7-dimethoxy-2(1H)-

isoquinolinyl)carbonyl]-1-piperidinyl]ethyl]-4-fluoro- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

=> log 1

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